Appropriations for FY2001: Energy and Water Development

November 20, 2000

Congressional Research Service
https://crsreports.congress.gov
RL30507

Summary

The Energy and Water Development appropriations bill includes funding for civil projects of the Army Corps of Engineers, the Department of the Interior's Bureau of Reclamation (BuRec), most of the Department of Energy (DOE), and a number of independent agencies. The Administration requested $22.7 billion for these programs for FY2001 compared with $21.2 billion appropriated in FY2000. The House bill, H.R. 4733, passed on June 28, 2000, allocated $21.74 billion. The Senate passed its version of H.R. 4733 September 7, appropriating $22.5 billion. The conference bill, reported September 27, appropriated a total of $23.3 billion. That bill was vetoed, largely for non-fiscal reasons, and the Senate October 12 added a new version of the conference bill, with essentially the same funding but without the veto-drawing measure, to the VA/HUD appropriations measure, H.R. 4635. On October 18, H.R. 5483 was introduced in the House, containing the Energy and Water appropriations provisions included in the Senate-passed version. On the same day the conference report to H.R. 4635 was filed, including the provisions of H.R. 5483. The House and the Senate agreed to the conference report on October 19, and the President signed the bill October 27 (P.L. 106-377).

Key issues involving Energy and Water Development appropriations programs include:

- authorization of appropriations for major water/ecosystem restoration initiatives for the Florida Everglades and California "Bay-Delta";
- reform or review of Corps study procedures and agency management practices;
- spending for solar and renewable energy to address global climate change issues;
- a pending decision by DOE on the electrometallurgical treatment of nuclear spent fuel for storage and disposal, a process that opponents contend raises nuclear proliferation concerns;
- implementation of the new National Nuclear Security Administration (NNSA);
- an expanded Threat Reduction Initiative aimed at ending Russia's production of plutonium that can be used to make nuclear weapons; and
- DOE management of its Spallation Neutron Source Project (SNS).

Contents

Tables

Contacts

Most Recent Developments

A rare veto of the Energy and Water appropriations bill led to late-session maneuvering for FY2001 funding. After President Clinton vetoed H.R. 4733 over a provision (§103) regarding control of the Missouri River (see Title I, Army Corps of Engineers, below), the House voted 315-98 to override the veto on October 11. On October 12, the Senate attached the H.R. 4733 conference bill, minus §103 and with a few other water provisions, to H.R. 4635, the appropriations bill for Veterans Affairs and Housing and Urban Development, and then passed that bill by a vote of 87-8. On October 18, H.R. 5483 was introduced in the House, containing the Energy and Water appropriations provisions included in the Senate-passed version. On the same day the conference report to H.R. 4635 was filed, including the provisions of H.R. 5483. The House and the Senate agreed to the conference report on October 19, and the President signed the bill October 27 (P.L. 106-377).

Status

Table 1. Status of Energy and Water Appropriations, FY2001

Subcommittee Markup		House Report	House Passage	Senate Report	Senate Passage	Conf. Report	Conference Report Approval		Public Law
House	Senate						House	Senate	
6/12/00	7/13/00	6/20/00 H.Rept. 106-693	6/28/00 H.R. 4733	8/30/00 S.Rept. 106-395	9/7/00	9/27/00 H.Rept. 106-907*	9/28/00*	10/2/00*	10/27/00 P.L. 106-377

* H.R. 4733 was vetoed October 7. The House voted 315-98 October 11 to override the veto, but the Senate attached the conference bill, minus the provision provoking the veto, to H.R. 4635, funding VA/HUD, and passed that bill October 12. H.R. 5483, containing the Senate's Energy and Water provisions, was included in the conference report on H.R. 4635, filed October 18 (H.Rept. 106-988) and passed by the House and the Senate October 19. The President signed H.R. 4635 October 27.

Overview

The Energy and Water Development appropriations bill includes funding for civil projects of the Army Corps of Engineers, the Department of the Interior's Bureau of Reclamation (BuRec), most of the Department of Energy (DOE), and a number of independent agencies, including the Nuclear Regulatory Commission (NRC) and the Appalachian Regional Commission (ARC). The Administration requested $22.7 billion for these programs for FY2001, compared with $21.2 billion appropriated for FY2000.

For the Corps of Engineers, the Administration sought $4.06 billion in FY2001, about $78 million less than the amount appropriated for FY2000. The final bill appropriated $4.54 billion. The Administration requested $841 million for FY2001 for the Department of the Interior programs included in the Energy and Water bill—the Bureau of Reclamation and the Central Utah Project. This would have been an increase of $32.3 million. The final bill appropriated $816.4 million, an increase of $10.4 million over FY2000. The request for DOE programs was $18.1 billion, about 8% above the previous year. The major activities in the DOE budget are energy research and development, general science, environmental cleanup, and nuclear weapons programs. The final

bill appropriated $18.3 billion. (Funding of DOE's programs for fossil fuels, energy efficiency, and energy statistics is included in the Interior and Related Agencies appropriations bill. The FY2001 net appropriations request for these programs was $865 million.) For the Nuclear Regulatory Commission and other independent agencies funded in Title IV of the Energy and Water bill, the net appropriations requested for FY2001 was $177.2 million. The final bill appropriated $171.9 million.

Table 2. Energy and Water Development Appropriations, FY1994 to FY2001
(budget authority in billions of current dollars)*

FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01
22.3	20.7	19.3	20.0	21.2	21.2	21.2	22.7

* These figures represent current dollars, exclude permanent budget authorities, and reflect rescissions.

Table 2 includes FY2001 budget request figures and budget totals for energy and water appropriations enacted for FY1994 to FY2000. Tables 3-7 provide budget details for Title I (Corps of Engineers), Title II (Department of the Interior), Title III (Department of Energy) and Title IV (independent agencies) for FY2000 -FY2001.

Title I: Corps of Engineers

The final Energy and Water bill (P.L. 106-377) included $4.54 billion for the civil projects of the U.S. Army Corps of Engineers (Corps) for FY2001, approximately $481 million more than requested by the Administration and approximately $403 more than enacted for FY2000. The Administration requested $4.06 billion for FY2001, slightly less (2%) than the $4.14 billion enacted for FY2000. The House-passed bill included $4.12 billion; the Senate-passed version included $4.11 billion; the earlier conference version (H.R. 4733, vetoed by the President) had included $4.52 billion. The final version includes $21.5 million more for the Corps' construction budget.

Table 3. Energy and Water Development Appropriations Title I: Corps of Engineers
(in millions of dollars)

Program	FY 2000	FY2001 Request	H.R. 4733 House	H.R. 4733 Senate	H.R. 4733 Conf.	P.L. 106-377
Investigations & Planning	162.0	137.7	153.3	139.2	160.0	160.0
Construction	1,400.7	1,346.0	1,378.4	1,361.5	1,695.7	1,717.2
Flood Control, Mississippi River	309.4	309.0	323.4	334.5	347.7	347.7
Operation and Maintenance	1,853.6	1,854.0	1,854.0	1,862.5	1,902.0	1,902.0
Regulatory	117.0	125.0	125.0	120.0	125.0	125.0
General Expenses	149.5	152.0	149.5	152.0	152.0	152.0
FUSRAP	150.0	140.0	140.0	140.0	140.0	140.0
Total	4,142.2	4,063.7	4,123.6	4,109.7	4,522.4	4,543.9

Key Policy Issues—Corps of Engineers

Funding for Corps of Engineers civil programs is often a contentious issue between the White House and the Congress, with final appropriations bills typically providing more funding than requested. For FY1998, for example, the Congress added $270 million (7%) to the $3.63 billion requested by the Administration. Similarly, the FY1999 bill as passed included a total of $3.86 billion for the Corps, $638 million more (20%) than requested, and for FY2000, Congress provided approximately $250 million more (6%) than requested.

The story continued in FY2001. The conference report for H.R. 4733, which the President vetoed over another issue (see below), included nearly $460 million more (11.3%) than requested. The final version (P.L. 106-377) added $21.5 million to the Corps' construction budget, bringing the total to approximately $481 million more than requested, about 11.8%. The late additions included $6.9 million more for an Elba, Alabama, flood control project; $10.3 million more for the Geneva, Alabama, flood control project; $0.5 million more for the Metropolitan Louisville, Beargrass Creek, Kentucky, project; $2.8 million more for the St. Louis, Missouri, environmental infrastructures project; and $1 million more for the Black Fox, Murfree and Oaklands Springs Wetlands, Tennessee, project. The final bill also includes $0.8 million more for the Upper Susquehanna River Basin, New York, project under the General Investigations account; however, this amount is offset by an increase of $0.8 million in the line item for reductions and anticipated savings, slippage, and carryover balances within that account.

Corps Management Reforms. The House Appropriations Committee noted in report language concerns about the Corps' project review process and indicated its desire for a more streamlined process. The Committee also mentioned recent allegations that agency officials have improperly manipulated a study of navigation improvements on the upper Mississippi River and Illinois Waterway; however, the Committee noted that because these allegations are still under investigation, it is recommending no specific action to address the alleged behavior. On a related matter, the Committee addressed accusations of the Corps' efforts toward "improperly trying to 'grow' its Civil Works program." It noted that while pressure on planners and engineers to "inappropriately justify projects" is clearly unacceptable, it viewed it the "proper role of the Chief of Engineers to advise the Administration, the Congress, and the Nation of the level of investment in water resources infrastructure ... needed to support the economy and improve the quality of life for our citizens."

The Senate Appropriations Committee report also noted criticisms of the Corps' operations and the Committee's dissatisfaction with the Administration's proposed management reforms. While the Committee initially did not include language prohibiting such reforms, it put the Administration on notice that it would continue to "assess the need for such language as the process moves forward." No mention of such language was included in the conference bill or the statement of conference managers. However, language directing the Corps to contract with the National Academy of Sciences to study the feasibility of establishing an independent review panel for Corps project studies is included in the conference report for the Water Resources Development Act of 2000 (S. 2796, Section 216).

Missouri River Water Flows. The final version of the Energy and Water Development appropriations bill deleted Section 103 of the original conference report on H.R. 4733. Section 103 would have prohibited, under certain circumstances, the use of funds to revise the Corps' Missouri River Master Water Control Manual. Floor consideration of H.R. 4733 stalled in the Senate on July 21 over the language, and a Senate amendment to strike the provision was defeated 45-52 during floor consideration September 7. The Administration said it would veto the

bill if such language remained, and indeed, when the conference left Section 103 in, the President did veto the bill on October 7.

The issue involves the controversial subject of how to operate mainstem dams along the Missouri River, given the diverse statutes potentially affecting the Corps' river management activities. Upper basin states generally contend that the current master manual, which has been under review for many years, does not reflect changes in demand along the river. This is especially true, they argue, of increased demand for water and water releases to meet fish and wildlife and recreational uses, particularly water to support the pallid sturgeon, and other threatened and endangered species. Downstream states generally fear that changes in the operations manual to accommodate upstream concerns may result in an inadequate supply of water to meet full season navigational uses. Downstream states have also noted fears of increased flooding below Gavins Point dam if higher water releases are made in the spring months.

Title II: Department of the Interior

For the Department of the Interior, the Energy and Water Development bill provides funding for the Bureau of Reclamation (BuRec) and the Central Utah Project Completion Account. The final bill (P.L. 106-377) includes $39.9 million for the Central Utah Project Completion Account, the same as enacted for FY2000. The bill also includes $776.5 million for BuRec for FY2001, approximately $10 million more than enacted for FY2000.

Table 4. Energy and Water Development Appropriations Title II: Central Utah Project Completion Account

(in millions of dollars)

Program	FY2000	FY2001 Request	H.R. 4733 House	H.R. 4733 Senate	P.L. 106-377
Central Utah project construction and oversight	23.9	20.8	—	—	—
Mitigation and conservation activities*	15.5	19.1	—	—	—
Total, Central Utah Project	39.4	39.9	39.9	39.9	39.9

* Includes funds available for Utah Reclamation Mitigation and Conservation Commission activities and $5 million for the contribution authorized by §402(b)(2) of the Central Utah Project Completion Act (P.L. 102-575).

Table 5. Energy and Water Development Appropriations Title II: Bureau of Reclamation

(in millions of dollars)

Program	FY2000	FY2001 Request*	H.R. 4733 House	H.R. 4733 Senate	P.L. 106-377
Water and related resources	606.0**	643.0	635.8	655.2	678.5
California Bay-Delta (CALFED)	60.0	60.0	0	0	0
Loan program account	11.6	9.4	9.4	9.4	9.4
Policy & Admin.	47.0***	50.2	47.0	50.2	50.2
Central Valley Project (CVP) Restoration Fund	42.0	38.4	38.4	38.4	38.4

Program	FY2000	FY2001 Request*	H.R. 4733 House	H.R. 4733 Senate	P.L. 106-377
Gross Current Authority	**766.6**	**801.0**	**730.6**	**752.7**	**776.5**

* Does not reflect appropriations derived from transfer of $25.8 million from the Working Capital Fund, but does include $1.5 million in supplemental appropriations (P.L. 106-31).
** Does not include $980,000 transferred from the U.S. Geological Survey to the Bureau of Reclamation for support of the Department of the Interior National Business Center.
*** Does not include $424,000 transferred from the U.S. Geological Survey.

Background on Reclamation Policy

Most of the large dams and water diversion structures in the West were built by, or with the assistance of, BuRec. Whereas the Corps built hundreds of flood control and navigation projects, BuRec's mission was to develop water supplies and to reclaim arid lands in the West, primarily for irrigation. Today, BuRec manages more than 600 dams in 17 western states, providing water to approximately 10 million acres of farmland and 31 million people.

BuRec has undergone many changes in the last 15 years, turning from largely a dam construction agency to a self-described water resource management agency. The agency describes the "intent" of its programs and projects as follows:

- to operate and maintain all facilities in a safe, efficient, economical, and reliable manner;
- to sustain the health and integrity of ecosystems while addressing the water demands of a growing west; and
- to assist states, tribal governments, and local communities in solving contemporary and future water and related resource problems in an environmentally, socially, and fiscally sound manner.

In practice, however, the agency is limited in how it can address new demands and new priorities because of numerous federal, state and local statutes, compacts, and existing contracts, which together govern the delivery of water to project users. Consequently, any proposal to change BuRec water allocation or water management policies often becomes difficult to implement and extremely controversial.

Key Policy Issues—Bureau of Reclamation

The final bill includes $776.5 million for FY2001 for BuRec, which is approximately $10 million more than enacted for FY2000. Funding for BuRec was not affected by modifications to the conference bill as included in H.R. 4635. The House-passed bill included approximately $730 million for BuRec for FY2001; the Senate-passed version included $752.7. The Administration requested an appropriation of approximately $801.03 million – approximately $33 million more than enacted for FY2000.

Both the House and Senate Appropriations Committees stated they would not fund the Administration's request of $60 million for the California Bay-Delta Restoration Program (Bay-Delta, or CALFED), the same amount as was enacted for FY2000, until the program received an authorization for such appropriations. (Funding for Bay-Delta is requested in BuRec's budget, but the appropriation would be allocated among several federal agencies.) A proposal to include $20 million in CALFED funding for FY2001 was dropped in conference, as was a proposal to adopt

authorizing language similar to that recently reported from the House Resources Committee (H.R. 5130). The Administration submitted language to extend the Bay-Delta appropriations authorization through FY2003, for an additional total of $429.9 million (averaging $143.3 million per year, but not requested by year). The FY2001 request of $60 million for Bay-Delta activities included $30 million for ecosystem restoration activities, $5 million (maximum) for planning and management, and $24 million for "other activities." According to BuRec, there are still unobligated prior year funds that may be used for some CALFED projects.

Title III: Department of Energy

The Energy and Water Development bill includes funding for most of DOE's programs. Major DOE activities in the bill include research and development on renewable energy and nuclear power, general science, environmental cleanup, and nuclear weapons programs. The Administration's FY2001 request was $18.06 billion, which would have boosted DOE programs in the bill by about 8%. The House approved $17.29 billion for DOE programs. The Senate bill contained $17.95 billion. The final bill, P.L. 106-377, appropriated $18.34 billion. (The FY2001 appropriation for DOE's programs for fossil fuels, energy efficiency, the Strategic Petroleum Reserve, and energy statistics, included in the Interior and Related Agencies appropriations bill, P.L. 106-291, was $1.46 billion. See CRS Report RL30506, Appropriations for FY2001: Interior and Related Agencies.)

Table 6. Energy and Water Development Appropriations Title III: Department of Energy
(in millions of dollars)

Program	FY2000	FY2001 Request	H.R. 4733 House	H.R. 4733 Senate	P.L. 106-377
Energy Supply R&D					
Solar and Renewable	362.2	454.8	390.5	441.1	422.1
Nuclear Energy	288.7	288.3	231.8	262.0	259.9
Other	48.6	49.0	43.6	49.9	44.6
Subtotal	699.5	792.1	665.9	753.0	726.7
Adjustments	(60.4)	(61.4)	(49.4)	(61.4)	(66.0)
Total, Energy Supply	639.1	730.7	616.5	691.5	660.6
Uranium Enrichment					
Decontam. & Decomm.	249.2	294.6	—	297.8	—
Maint. & Remediation	-	-	301.4	—	393.4
General Science					
High Energy Physics	707.9	709.3	714.7	677.0	726.1
Nuclear Physics	352.0	365.1	369.9	350.3	369.9
Basic Energy Sciences	783.1	1,003.9	791.0	914.6	1,013.4
Bio. & Env. R&D	441.5	438.4	404.0	444.0	500.3
Fusion	250.0	243.9	255.0	227.3	255.0
Advanced Sci Computing	132.0	179.8	137.0	140.0	170.0

Program	FY2000	FY2001 Request	H.R. 4733 House	H.R. 4733 Senate	P.L. 106-377
Other	165.1	222.2	172.9	167.6	223.9
Adjustments	(44.0)	—	(13.6)	(50.7)	(72.3)
Total, General Science	2,787.6	3,162.6	2,830.9	2,870.1	3,186.3
Non-Defense Environmental Management	332.4	282.8	281.0	309.1	277.8
National Nuclear Security Administration (NNSA)					
Weapons	4,427.1	4,639.2	4,579.7	4,883.3	5,015.2
Nuclear Nonproliferation	729.1	865.6	861.5	909.0	874.2
Naval Reactors	677.6	673.1	677.6	694.6	690.2
Office of Administrator				10.0	10.0
Total, NNSA	5,833.8	6,177.9	6,118.8	6,496.9	6,589.5
Defense Environmental Management					
Environ. Restoration	4,467.3	4,562.1	4,522.7	4,635.8	4974.5
Defense Facilities Closure Projects	1,060.5	1,082.7	1,082.3	1,082.3	1,082.7
Environ. Rest. Privatization	188.3	515.0	259.0	324.0	65.0
Total, Defense Env. Man.	5,716.0	6,159.7	5864.0	6042.1	6,122.2
Other Defense Activities	309.2	575.6	592.2	579.5	585.8
Defense Nuclear Waste	111.6	112.0	200.0	292.0	200.0
Other		17.0			—
Total, Defense Activities	11,970.6	13,042.2	12,775.0	13,410.4	13,497.5
Departmental Admin. (net)	99.5	85.7	42.5	81.4	75.1
Office of Inspector General	29.5	33.0	31.5	29.0	31.5
Power Marketing Administrations (PMA's)					
Southeastern	39.6	3.9	3.9	3.9	3.9
Southwestern	28.8	28.1	28.1	28.1	28.1
Western	193.4	164.9	160.9	164.9	165.8
Falcon & Armistad O&M	1.3	2.7	2.7	2.7	2.7
Total, PMA's	263.1	199.6	195.6	199.6	200.7
FERC (revenues)	175.0 (175.0)	175.2 (175.2)	175.2 (175.2)	175.5 (175.5)	175.2 (175.2)
Civilian Nuclear Waste	239.6	318.6	213.0	59.2	191.1
Adjustments		(85.0)			(172.0)
Total, Title III	**16,606.9**	**18,064.7**	**17,287.4**	**17,948.0**	**18,341.8**

Key Policy Issues—Department of Energy

Renewable Energy

"The solar and renewable energy program is a major component of the Administration's activities to address global climate change," according to the Appendix to the U.S. Government's FY2001 Budget (p. 403). In accordance with that policy, DOE proposed to boost solar and renewables funding to $454.8 million (net, including $47.1 million for programs under the Office of Science)—an increase of $92.6 million (26%) over the FY2000 level. This includes $407.8 million for DOE's Office of Energy Efficiency and Renewable Energy (EERE), an increase of $92.6 million, and $47.1 million for the Office of Science, which is the same as for FY2000. The EERE amount includes $29.9 million more for biofuels, $17.1 million more for wind, $14.5 million more for photovoltaics, $9.5 million more for electric and storage programs, and $7.5 million more for international renewable energy programs.

For Biofuels, DOE proposed an Integrated Bioenergy Technology Research and Technology Initiative, prompted by President Clinton's Executive Order 13134, *Developing and Promoting Biobased Products and Bioenergy*, and ethanol production from agricultural and forestry residues.

Wind initiatives would accelerate deployment, address regional barriers, and enhance wind energy use in developing countries. Photovoltaic initiatives support cost reductions, "Million Solar Roofs," and private sector "clean energy" projects and national action plans in developing countries. Electric/Storage initiatives focus on power system security and reliability, power electronics technology, and distributed power systems.

The House Appropriations Committee recommended $352.8 million (including $47.1 million for programs under the Office of Science) for the DOE Renewable Energy Program. However, voice vote approval of an amendment sponsored by Representatives Salmon, Udall, Boehlert and Kaptur (H.Amdt. 920, A006) added $37.7 million, bringing the House-passed total to $390.5 million. In contrast, the Senate approved $444.1 million (including $47.1 million for programs under the Office of Science) for the DOE Renewable Energy Program. Seven Senate floor amendments created earmarks for various renewable energy programs, but none of the amendments modified the level of appropriations.

The final bill appropriated $422.1 million (including $47.1 million for programs managed by the Office of Science). This figure is $59.9 million, or 17%, above the FY2000 funding. It includes $13.6 million more for Electric/Storage, $8.8 million more for Photovoltaics, $7.5 million more for Biofuels-Power, $7.0 million more for Wind, $6.7 million more for Biofuels-Transportation, and $3.0 million more for Geothermal. However, relative to the request, the final bill provides $32.8 million (7%) less for the Renewable Energy Program. This includes $10.1 million less for Wind, $8.0 million less for Biofuels-Transportation, $7.8 million less for Biofuels-Power, $6.5 million less for International Renewables, $5.7 million less for Photovoltaics, and $3.0 million less for Departmental Energy Management programs.

Nuclear Energy

For nuclear energy programs—including reactor research and development, space power systems, and closing of surplus facilities—the enacted bill provides $259.9 million for FY2001. This amount is about $30 million below the Administration budget request, but the legislation transfers $53.4 million of the request for uranium management programs into a new Uranium Facilities Maintenance and Remediation account and added $9 million more for treatment of depleted uranium stockpiles. The Senate version of H.R. 4733 had $262 million for nuclear energy, plus

$62.4 million for the uranium management programs. The House had approved $231.8 million, plus $53.4 million for uranium management.

The approved bill provides the Administration's $35 million request for a program to support innovative nuclear energy research projects, the "nuclear energy research initiative" (NERI). The House had voted to leave NERI at the FY2000 funding level of $22.5 million, while the Senate had approved $41.5 million. The enacted bill provides an additional $7.5 million for a separate program on nuclear energy technologies, which the Senate had proposed to include in NERI. Of that amount, $4.5 million is to be spent on a "road map for the commercial deployment of a next-generation power reactor;" $1 million is earmarked to analyze potential improvements in advanced versions of today's commercial light water reactors; $1 million is for initiatives supporting an advanced gas-cooled reactor; and the final $1 million is for a feasibility study for deploying small modular reactors.

Reflecting House and Senate support, the bill provides the Administration's full request of $5 million—nearly the same as the FY2000 appropriation—for "nuclear energy plant optimization" (NEPO), a research program to improve the economic competitiveness of existing nuclear power plants. The conferees specified that non-federal partners share at least half the costs of NEPO projects.

Funding for NEPO is part of the Administration's Climate Change Technology Initiative. To be matched by industry, the NEPO funding is to focus on research to extend the operating lives of existing reactors and to allow them to operate more efficiently and reliably. The program's goal is to increase the average production of U.S. nuclear plants to 85% of full capacity by 2010; the capacity utilization percentage of U.S. reactors generally averages in the mid-70s, although it was close to 85% in 1999.

Because nuclear plants directly emit no carbon dioxide, greater production of nuclear power from existing reactors could help the United States reduce its total "greenhouse gas" emissions. "Nuclear energy is the only proven large-scale power source that has unlimited potential to provide clean and reliable electricity into the next century," according to the DOE budget justification. However, opponents have criticized DOE's nuclear energy research programs as providing wasteful subsidies to a failing industry.

Controversy has also been generated by the "electrometallurgical treatment" of DOE spent fuel, a process in which metal fuel is melted and highly radioactive isotopes are electrochemically separated from uranium and plutonium. DOE contends that such treatment may be the best way to render sodium-bonded spent fuel—particularly from the closed Experimental Breeder Reactor II (EBR-II) in Idaho—safe for long-term storage and disposal. DOE decided in September 2000 to use the process to prepare spent fuel for disposal.

DOE received $40 million in FY1999 to complete a demonstration program for the technology. Continued research on sodium-bonded fuel treatment received $18 million for FY2000, and DOE requested $15 million for FY2001. The final bill approved the Administration budget request within a restructured funding category of $34.9 million for nuclear facilities management. House Appropriations Committee report language requires DOE to submit a report by March 2001 on the types of waste that the process would produce.

Opponents of electrometallurgical treatment contend that it is unnecessary and that the process could be used for separating plutonium to make nuclear weapons. They note that the process uses much of the same technology and equipment developed for the plutonium-fueled Integral Fast Reactor, or Advanced Liquid Metal Reactor, which was canceled by Congress in 1993 partly because of concerns about nuclear weapons proliferation.

The appropriations act establishes a new DOE program called Advanced Accelerator Applications, which includes $3 million for research on accelerator transmutation of waste (ATW) at the University of Nevada-Las Vegas. ATW would use powerful particle accelerators to transmute long-lived elements in radioactive waste into shorter-lived elements for safer disposal. DOE issued a "roadmap" for the ATW program November 1, 1999, concluding that a six-year R&D program costing $281 million would be needed to support future technology decisions for deploying such a system. No FY2001 funding was requested or provided by the House for ATW, but DOE proposed to use some of the $9 million appropriated for FY2000 to continue studies of the technology during FY2001. The Senate had earmarked $5 million for ATW studies in Nevada under the new Advanced Accelerator Applications program.

The enacted measure includes DOE's $44 million request for the Fast Flux Test Facility (FFTF) at Hanford, Washington, a boost of about $5 million from the budget request and $16 million above the FY2000 level. The House had voted to provide $39 million, and the Senate had approved $44 million. FFTF, a sodium-cooled research reactor originally designed to support the commercial breeder reactor program, has not operated since 1992 and is being maintained in standby condition. DOE intends to decide in FY2001 whether to restart the reactor for nuclear research and medical isotope production or permanently shut it down. DOE contended that a funding increase would be needed in FY2001 to begin implementing the decision.

Science

DOE's science programs consist of a wide variety of basic research activities concentrated in the physical, biological, and computer sciences, and mathematics. These programs include high-energy physics, nuclear physics, basic energy sciences (BES), biological and environmental research (BER), fusion energy sciences, and advanced scientific computing. For the DOE science programs, the FY2001 request was 12.1% above FY2000. The House approved $2.757 billion for these programs, 10.1% below the request, while the Senate appropriated $2.842 billion, 5.4% below the request. Funds were restored in conference, however, with the final bill including $3.186 billion, 0.75% above the request.

About two-thirds of the requested increase was concentrated in three areas. First, DOE requested an increase of $162 million in construction funding for the Spallation Neutron Source (SNS) project. The House, citing "severe funding constraints," appropriated level funding for the project of $100 million. The Senate, however, approved $221 million for construction, touting the importance of the project for advancing science and technology. Again, the final bill restored some of the funding, providing $259.5 million, $2.4 million below the request.

DOE also requested a $49 million increase for civilian information technology (IT) research. The latter focuses on development and application of high performance computing for scientific applications. The House, again citing funding limitations, approved only $5 million of the requested increase. The Senate approved funding about $20 million of the requested increase although much of that would come by shifting funds from other programs. The final bill provided nearly all of the requested funding, although a specific amount was not given.

The third major program request by DOE was an additional $36 million for nanoscience and nanotechnology research within BES. The House made no mention of this initiative, although its appropriation for the BES program not including the SNS was $62.9 million below the request. The Senate expressed strong support for the initiative but provided only about 56% of BES funding requested for it. Funds were restored in conference with the final bill providing the full request.

The House's appropriation for the BER program was 8.8% below the request. Again, funding constraints were cited although the House argued that the appropriation was in line with previous years when new projects started in FY2000 were removed. The Senate approved funding the program at 0.3% below the request. The final bill provided $500.3 million for this program, 14.1% above the request. Much of the increase is for projects specifically identified by Congress.

The House approved funding the High Energy and Nuclear Physics programs at their requested level. It did note, however, that it was not anxious to fund design work for large new accelerators in a period of limited funds. The Senate's appropriation for these two programs was about 5.3% below the request. The Senate cited "severe budget constraints" as the reason. Funding was restored in the final bill for a total 2.0% above the original request.

The House also approved an increase of $7.5 million above the request for the Fusion Energy Sciences program, which would be a slight increase over the FY2000 level. The Senate, again citing budget constraints, approved funding fusion research at 8.1% below the request. The final bill funded at the House mark.

Nuclear Weapons Stewardship R&D

This activity is aimed at developing the science and technology to maintain the nation's nuclear weapons stockpile in the absence of nuclear testing. Principal activities are the development of computational capabilities that can simulate weapons explosions and perform other important computations, and experimental facilities to simulate and test various aspects of weapons behavior without resorting to a full scale explosion. For the last four years, nuclear weapons stewardship R&D was called stockpile stewardship. This year, as DOE's defense programs were absorbed by the newly created National Nuclear Security Administration (NNSA), DOE reorganized the activity, eliminating both the stockpile stewardship and maintenance designations, and creating four new programs: directed stockpile work, campaigns, readiness in technical base and facilities, and construction. Weapons R&D falls across all four programs.

For FY2001, DOE requested a 3.0% increase for weapons R&D. The House approved a slight increase of 0.2% above the request. The House also directed DOE to consolidate its inertial confinement fusion and defense modeling and computing activities within the campaigns program, and approved a transfer of funds from the readiness in technical base and facilities program to campaigns to this effect. The Senate approved a 4.9% increase above the request for weapons R&D. It is concerned about the slow pace of the stockpile stewardship program and believes that significantly more funding is needed if it is to meet its goals. The final bill included $2.454 billion for weapons R&D, 12.5% above the request. Nearly all of the increase above the Senate-approved amount was assigned to the NIF project (see below).

The national security budget for FY2001 was prepared for the first time under the rubric of the NNSA, the new organization created by Congress (P.L. 106-65, H.Rept. 106-301) to manage most of DOE's defense activities in the wake of security concerns uncovered in 1998. Implementation of the NNSA has been quite controversial, and several in Congress have expressed displeasure about the way DOE is undertaking this task. The House noted that it has been citing DOE management problems for some time and expressed its desire that the new director of the NNSA take the opportunity afforded by the reorganization to make major changes in the current DOE management structure. The Senate expressed hope that NNSA can resolve the serious concerns the Senate has with the current stockpile stewardship program. The conferees expressed their support of efforts to staff the NNSA and agreed that such actions should not be affected by a change in administration.

A major problem that has emerged is the large cost overrun on the National Ignition Facility (NIF). Currently, DOE estimates the total project cost to be about $3.26 billion compared to the original estimate of $2.03 billion. GAO estimates the cost to be $3.9 billion. The overrun is due primarily to significant management and technical problems that emerged during NIF construction.[1] DOE has not amended its FY2001 budget request for NIF, which was $74 million for construction plus about $85 million in related costs. With the FY2000 appropriations, Congress had directed DOE to provide a new cost baseline by June 1, 2000, or provide an estimate of termination costs. The House noted DOE's failure to meet the deadline, and stated that it would reserve judgment about the NIF project until September. In the meantime it approved funding the original DOE request for NIF for FY2001.

The Senate bill included an amendment that would cap funding for NIF at $74.1 million until the results of a study by the National Academy of Sciences on the project was delivered. The study was to be completed by September 1, 2001, and would, among other things, examine the contribution of NIF to the Stockpile Stewardship program (SSP) and determine whether existing technical problems are likely to add to the project's cost and whether a smaller version of NIF would suffice.

In conference, the funding of $199 million for NIF for FY2001 was agreed to. Of this amount, $65 million would come from funds transferred from other weapons programs and $134.1 million would be in new appropriations. The final appropriations bill limits the amount available to DOE for NIF to $130 million at the start of FY2001, releasing the remaining funds after March 31, 2001 and only after certification by the NNSA that several conditions have been met. These conditions include, among other things, a review of alternative construction options; certification that project milestones, schedule and costs are being met; completion of a study on whether a full-scale NIF is needed to meet the goals of the SSP; and a five-year plan for the SSP that describes how NIF is to be paid for in the out years. In the meantime, DOE completed the new baseline on September 15, 2000, and now estimates the total NIF project cost at $3.45 billion.

Another issue raised by the House concerned the amount and use of Laboratory Directed Research and Development (LDRD) funds. For FY2000, the Congress had reduced the LDRD funding level to 4% of funds appropriated for labs from 6%. DOE requested restoring the level to 6% for FY2001, but the House retained that 4% level and further directed DOE to submit a specific request for these funds within each program in future budget submissions. In an amendment adopted on the floor, the Senate approved a level of 8% and included funds from the Environmental Management programs. The conferees adopted a level of 6% for LDRD for the laboratories and 2% for the weapons production plants. The House requirement that DOE produce a financial accounting report of these funds was also adopted.

Nonproliferation and National Security Programs

DOE's nonproliferation and national security programs provide technical capabilities to support U.S. efforts to prevent, detect, and counter the spread of nuclear weapons worldwide. Also included are Cooperative Threat Reduction programs to reduce nuclear, chemical, and biological weapon dangers in Russia and other countries of the former Soviet Union, and arms control treaty verification programs. Some intelligence programs are also included. These nonproliferation and national security programs are to be included in the newly established National Nuclear Security

[1] Congressional Research Service, *The National Ignition Facility: Management, Technical, and Other Issues,* by Richard Rowberg, CRS Report RL30540, updated May 16, 2000.

Administration (NNSA). Some of these activities are also funded in the Department of Defense. (See CRS report RL30505: Appropriations for FY2001: Defense.)

The Administration's FY2001 request for these programs was $865.6 million, an increase of $36.5 million over FY2000. The House approved $861.5 million for DOE nuclear nonproliferation programs in the Energy and Water appropriations bill for FY2001. The Senate bill funded the activity at $909.0 million, and the final bill appropriated $874.2 million.

The FY2001 request for nonproliferation and national security programs included $100 million for a new long-term nonproliferation program with Russia. The new program, part of the Administration's Expanded Threat Reduction Initiative, is the result of several years of negotiations aimed at ending Russia's continuing production of plutonium that can be used to make nuclear weapons. The funds would be used to store Russian nuclear waste instead of reprocessing it to recover plutonium, and to accelerate efforts to improve the safety and security of nuclear materials in Russia. The House and Senate bills funded some of these activities, but included the funding in existing programs rather than as a new initiative. The final bill continued this pattern.

Environmental Management

DOE's Environmental Management Program (EM) is responsible for cleaning up environmental contamination and disposing of radioactive waste at DOE nuclear sites. The FY2001 enacted level for the program is $6.4 billion, nearly the full request, excluding the Uranium Enrichment Decontamination and Decommissioning Fund. The House had voted a $300 million reduction from the budget request, and the Senate had cut about $100 million.

The enacted measure cuts all but $65 million of the $539 million request for the "privatization" of major DOE waste management projects, primarily a project to solidify high-level radioactive waste at Hanford, Washington. Because DOE decided in spring 2000 that the Hanford project would not be "privatized" after all, the conferees transferred $377 million from the privatization account to the Office of River Protection at Hanford, where the waste solidification effort will be managed under a more routine DOE contract. The conferees also approved a rescission of $97 million that had previously been appropriated for the contract.

The FY2001 EM budget request was based on the program's accelerated cleanup strategy, which attempts to maximize the number of sites that can be completely cleaned up by the end of FY2006. DOE managers contend that substantial long-term savings can be gained by focusing on completing work at those sites, allowing the earliest possible termination of infrastructure costs. Major sites scheduled for shutdown during that period are included in the "defense facilities closure projects" account, for which $1.1 billion is included in the enacted bill, the same as the Administration request. The largest facilities under that account are the Rocky Flats site in Colorado and the Fernald site in Ohio. Another $981.5 million is provided for "site/project completion," about $65 million above the request, for cleanup activities to be finished by 2006 at DOE sites that will remain in operation.

Despite the 2006 cleanup goal, the bulk of EM's funding is in the "post-2006 completion" account, including the Office of River Protection at Hanford. This account includes cleanup projects that are expected to continue sometime after 2006. The FY2001 appropriations act provides $3.46 billion for post-2006 completion projects, including the $377 million transfer for the Hanford waste solidification project from the privatization account. The Administration had sought $2.97 billion.

The Hanford waste project, called the Tank Waste Remediation System (TWRS), consists of a pilot vitrification plant that would turn liquid high-level waste into radioactive glass logs for eventual disposal. The $450 million sought by DOE for TWRS was by far the largest item in EM's FY2001 privatization funding request. TWRS suffered a severe setback in spring 2000 after contractor BNFL Inc. announced that costs would total $15.2 billion, more than twice the previously estimated level. DOE announced in May 2000 that it would select a new contractor and switch to traditional financing methods for the project. The House had cut DOE's FY2001 appropriations request for TWRS to $194 million, and the Senate had voted $259 million.

Another major privatized project is a facility to treat "mixed" radioactive and hazardous waste at the Idaho National Engineering and Environmental Laboratory, for which $65 million was requested and included in the enacted bill. The Idaho project, the Advanced Mixed Waste Treatment Project, is opposed by some residents of Wyoming who are concerned about radioactivity from a planned incinerator. In response to that opposition, Energy Secretary Bill Richardson halted further work on the incinerator on March 27, 2000, and established a panel to recommend alternatives. However, the construction of the rest of the treatment project is to proceed.

The EM privatization effort is intended to reduce costs by increasing competition for cleanup work and shifting a portion of project risks from the federal government to contractors. Profits to contractors would depend on their success in meeting project schedules and holding down costs; potentially, profits could be substantially higher or lower than under traditional DOE contracting arrangements.

In a typical non-privatized DOE project, a contractor would be hired to build and operate a facility with government funds. DOE would approve and pay all the contractor's costs, and then award the contractor a profit based on performance. Under the privatization initiative, a contractor would be expected to raise almost all funding for necessary facilities and equipment for a project. The contractor would recover that investment and earn a profit by charging previously negotiated fees to DOE for providing services under the contract, such as solidification of radioactive waste.

With a privatized project, the contractor could earn higher profits by reducing costs, but the contractor could lose money if project costs were higher than expected or the required services were not delivered. If DOE cancelled the project, the federal government would repay the contractor's expenses to that date. To cover that contingency, DOE needs enough funding to be appropriated as construction proceeds. If the project were to begin operating as planned, the accumulated appropriations would be used to pay for waste treatment under the contract. In the case of the Hanford TWRS project, however, DOE concluded that the risks involved would cause the private sector to charge excessive prices to the government, negating the potential cost savings.

DOE's $295 million request for decontamination and decommissioning of uranium enrichment plants and mill sites would have provided a 21% boost over the FY2000 appropriation, and the final bill provided a further increase to $345 million. Much of DOE's proposed increase was targeted toward environmental cleanup activities at DOE's uranium enrichment plants at Paducah, Kentucky, and Portsmouth, Ohio, which are currently leased to a private firm. Recent controversy has focused on environmental hazards posed by the plants, particularly contamination resulting from the past enrichment of reprocessed uranium at Paducah. The enacted measure provides an additional $42 million above the request for reimbursing the mining industry for cleaning up uranium and thorium mill waste. The House had voted to cut the request to $260 million because of "severe funding constraints," according to the Appropriations Committee report, while the Senate had approved $298 million.

Civilian Nuclear Waste

The enacted bill provides up to $401million for the civilian nuclear waste program in FY2001 – nearly $30 million below the budget request but a $50 million increase over the FY2000 level. The House had voted to provide $413 million, while the Senate had voted $351 million. As required by the Nuclear Waste Policy Act, DOE is studying Yucca Mountain, Nevada, as the site for a national waste repository, currently scheduled to open in 2010. A final Environmental Impact Statement for the proposed Yucca Mountain repository is to be completed in FY2001. DOE contends that increased funding will be needed to prepare a site recommendation report for the President in FY2001, and to work on a license application to be sent to the Nuclear Regulatory Commission (NRC) in 2002, but the House Appropriations Committee report contended that DOE could meet its objectives with a smaller increase.

Funding for the program comes from two sources. Under the FY2001 budget request, $318.6 million was to be provided from the Nuclear Waste Fund, which consists of fees paid by nuclear utilities, and $112 million from the defense nuclear waste disposal account, which pays for disposal of high-level waste generated by the nuclear weapons program. The House voted to appropriate $213 million from the Nuclear Waste Fund and $200 million for the defense disposal account. The House also voted to rescind $85 million appropriated in FY1986 for interim nuclear waste storage – funding that was contingent on the passage of legislation that was vetoed by the President. The Senate approved $292 million from the defense disposal account and $59 million from the Nuclear Waste Fund, and also included the rescission of $85 million for interim storage. The final act provides $191 million from the Nuclear Waste Fund and $200 million from the defense account. It also rescinds $75 million from the previously appropriated $85 million for interim storage, and authorizes DOE to use the remaining $10 million if it is needed to complete the Yucca Mountain site recommendation report on time, for a total of $401 million.

The 2010 target for opening a permanent repository is 12 years later than the Nuclear Waste Policy Act deadline of January 31, 1998, for DOE to begin taking waste from nuclear plant sites. Nuclear utilities and state utility regulators, upset over DOE's failure to meet the 1998 disposal deadline, have won two federal court decisions upholding the Department's obligation to meet the deadline and to compensate utilities for any resulting damages. Utilities have also won several cases in the U.S. Court of Federal Claims, although specific damages have not yet been determined. In August 2000, a U.S. appeals court ruled that utilities could sue DOE for damages without first pursuing administrative remedies.

Power Marketing Administrations

DOE's Power Marketing Administrations (PMAs) developed out of the construction of dams and multi-purpose water projects during the 1930s that are operated by the Bureau of Reclamation and the Army Corps of Engineers. The original intention behind these projects was conservation and management of water resources, including irrigation, flood control, recreation and other objectives. However, many of these facilities generated electricity for project needs. The PMAs were established to market the excess power; they are the Bonneville Power Administration (BPA), Southeastern Power Administration (SEPA), Southwestern Power Administration (SWPA), and Western Area Power Administration (WAPA).

The power is sold at wholesale to electric utilities and federal agencies "at the lowest possible rates ... consistent with sound business practice," and priority on PMA power is extended to "preference customers," which include municipal utilities, co-ops and other "public" bodies. The PMAs do not own the generating facilities, but they generally do own transmission facilities,

except for Southeastern. The PMAs are responsible for covering their expenses and repaying debt and the federal investment in the generating facilities.

The 104th Congress debated sale of the PMAs and did, in 1995, authorize divestiture of one PMA, the Alaska Power Administration. The future of the remaining PMAs may rest on decisions yet to be made about the treatment of public power in the broader context of electric utility restructuring.

BPA receives no annual appropriation. The Administration's request for the other three PMAs for FY2001 was $199.6 million, a reduction of 25% from the FY2000 appropriation. The savings stemmed from the Administration's proposal that, beginning in FY2000, customers of SEPA, WAPA, and SWPA would be responsible for making their own power purchases and transmission arrangements from any suppliers other than the PMA to satisfy their needs. Under the Purchase Power and Wheeling Program (PPW), the PMAs have purchased electricity and transmission capability, which is repaid by PMA customers, to supplement federal generation. The premise behind the proposed elimination of the PPW program was that deregulation should make it less expensive and less complicated for PMA customers to make these arrangements. Another possible reason is that the money appropriated to the PMAs under PPW is repaid to the Treasury rather than to DOE. This means that the PPW appropriation is fully scored against the caps on discretionary domestic spending with which DOE must comply. Both the House and the Senate kept close to the Administration's proposed funding; the final bill appropriated $200.7 million for the three PMAs.

Title IV: Independent Agencies

Independent agencies that receive funding from the Energy and Water Development bill include the Nuclear Regulatory Commission (NRC), the Appalachian Regional Commission (ARC), and the Denali Commission. The House voted not to fund the Denali Commission for FY2001 or the proposed Delta Regional Authority. However, the Senate voted $20 million for the Delta Regional Authority and $30 million for the Denali Commission, and that funding survived in the final bill.

Table 7. Energy and Water Development Appropriations Title IV: Independent Agencies

(in millions of dollars)

Program	FY2000	FY2001 Request	H.R. 4733 House	H.R. 4733 Senate	P.L. 106-377
Appalachian Regional Commission	66.4	71.4	63.0	66.4	66.4
Nuclear Regulatory Commission	465.0	481.9	481.9	481.9	481.9
(Revenues)	(447.9)	(447.9)	(457.1)	(457.1)	(448.0)
Net NRC*	34.0	34.0	24.8	24.8	33.9
Defense Nuclear Facilities Safety Board	17.0	18.5	17.0	18.5	18.5
Nuclear Waste Technical Review Board	2.6	3.2	2.7	3.0	2.9
Denali Commission	20.0	20.0	0	30.0	30.0
Delta Regional Authority	—	30.0	0	20.0	20.0
Total	**128.5**	**177.2**	**107.5**	**162.7**	**171.9**

* Includes appropriations from the Nuclear Waste Fund, and excludes the NRC Inspector General's Office

Key Policy Issues—Independent Agencies

Nuclear Regulatory Commission

The final bill includes the full request by the Nuclear Regulatory Commission (NRC) for $481.9 million in FY2001, an increase of $16.9 million over FY2000. Major activities conducted by NRC include safety regulation of commercial nuclear reactors, licensing of nuclear waste facilities, and oversight of nuclear materials users. The funding request provides an additional $6.2 million for the NRC inspector general's office, which the enacted measure cuts to $5.5 million. Both the House and Senate had taken the same action.

The House and Senate Appropriations Committees sharply criticized NRC in 1998 for allegedly failing to overhaul its regulatory system in line with improvements in nuclear industry safety. The committees contended, among other problems, that NRC's regional offices were inconsistent with one another, that NRC was inappropriately interfering with nuclear plant management, and that numerous NRC review processes were outdated and unnecessary. But the panels praised NRC for making improvements during the FY2000 budget cycle, and the House Appropriations Committee continued the positive tone in its FY2001 report.

For the past decade, NRC's budget has been offset 100% by fees on nuclear power plants and other licensed activities, including the DOE nuclear waste program. The nuclear power industry has long contended that the existing fee structure requires nuclear reactor owners to pay for a number of NRC programs, such as foreign nuclear safety efforts, from which they do not directly benefit. To account for that concern, the final bill includes an NRC proposal to phase down the agency's fee recovery to 90% during the next 5 years – two percentage points per year. The Senate had approved a similar phasedown plan.

For Additional Reading

CRS Issue Briefs

CRS Issue Brief IB88090. *Nuclear Energy Policy.*

CRS Issue Brief IB92059. *Civilian Nuclear Waste Disposal*.

CRS Issue Brief IB10041. *Renewable Energy: Tax Credit, Budget, and Electricity Restructuring Issues.*

CRS Issue Brief IB10036. *Restructuring DOE and Its Laboratories: Issues in the 106th Congress.*

CRS Issue Brief IB10019. *Western Water Issues*.

CRS Reports

CRS Report RL30307. *Department of Energy Programs: Programs and Reorganization Proposals*.

CRS Report 97-464. *The National Ignition Facility and Stockpile Stewardship*.

CRS Report 96-212. *Civilian Nuclear Spent Fuel Temporary Storage Options*.

CRS Report RL30445. *Department of Energy Research and Development Budget for FY2001: Description and Analysis*.

Appropriations are one part of a complex federal budget process that includes budget resolutions, appropriations (regular, supplemental, and continuing) bills, rescissions, and budget reconciliation bills. The process begins with the President's budget request and is bounded by the rules of the House and Senate, the Congressional Budget and Impoundment Control Act of 1974 (as amended), the Budget Enforcement Act of 1990, and current program authorizations.

This report is a guide to one of the 13 regular appropriations bills that Congress passes each year. It is designed to supplement the information provided by the House and Senate Subcommittees on Energy and Water Development Appropriations. It summarizes the current legislative status of the bill, its scope, major issues, funding levels, and related legislative activity. The report lists the key CRS staff relevant to the issues covered and related CRS products.

NOTE: A Web version of this document with active links is available to congressional staff at http://www.loc.gov/crs/products/apppage.html

Key Policy Staff

Area of Expertise	Name	CRS Division	Telephone
Corps/Bureau of Reclamation	Steve Hughes Betsy Cody	RSI	7-7268 7-7229
General	Carl Behrens	RSI	7-8303
Nuclear Energy	Mark Holt	RSI	7-1704
R&D Programs	Dick Rowberg Fred Sissine	RSI	7-7040 7-7039
Nonproliferation	Carl Behrens	RSI	7-7233
TVA & PMA's	Rob Bamberger	RSI	7-7240

Division abbreviation: RSI = Resources, Science, and Industry.

Author Information

Marc Humphries, Coordinator
Specialist in Energy Policy

Carl E. Behrens, Coordinator
Specialist in Energy Policy

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